

## SECTION 7 CONTENTS

7.1	Introduction	7-1
7.2	Setting	7-1
7.3	Water Rights and Regulations	7-3
7.4	Water Quality Control	7-5
7.5	Drinking Water Regulations	7-5
7.6	Environmental Considerations	7-6
7.7	Dam Safety	7-6

### **Table**

7-1	General Status of Water Rights	7-4
7-2	Hazard Rating of Jordan River Basin Reservoirs	7-6

### **Figure**

7-1	Water Rights Area	7-2
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## SECTION 7

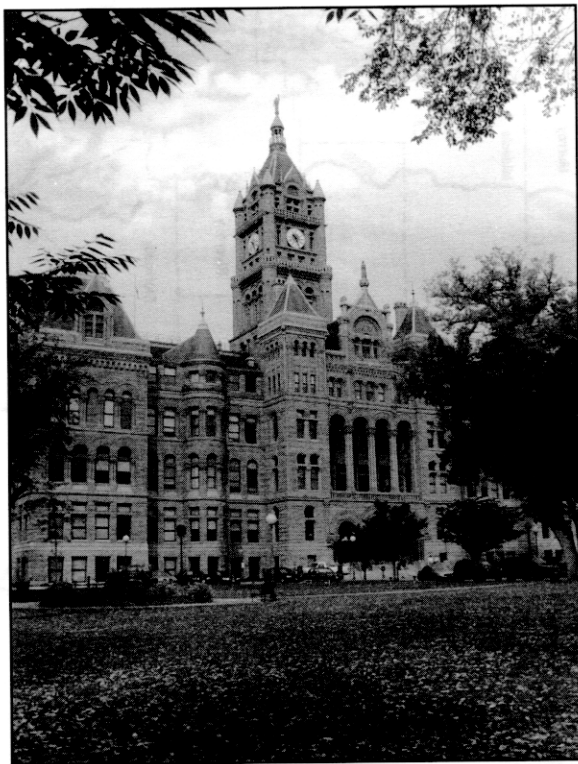
### STATE WATER PLAN - JORDAN RIVER BASIN

# REGULATION/INSTITUTIONAL CONSIDERATIONS

**The regulation of water resources is necessary to manage conflicts and to provide for orderly future planning and development.**

## 7.1 Introduction

This section discusses the agencies responsible for water regulation in the Jordan River Basin. This includes consideration of water rights, water quality and environmental concerns.



*Historic City and County Building in Salt Lake City*

Two state agencies, the Division of Water Rights and the Department of Environmental Quality, are primarily responsible for the regulation of water in the Jordan River Basin. The Division of Water Rights, under direction of the State Engineer, regulates water allocation and distribution according

to state water law. Water quality is regulated at the state level by the Department of Environmental Quality through two agencies, the Division of Water Quality and the Division of Drinking Water. These agencies operate in accordance with the Utah Water Quality Act and the Utah Safe Drinking Water Act. Water quality is also regulated by provisions of various federal acts.

## 7.2 Setting

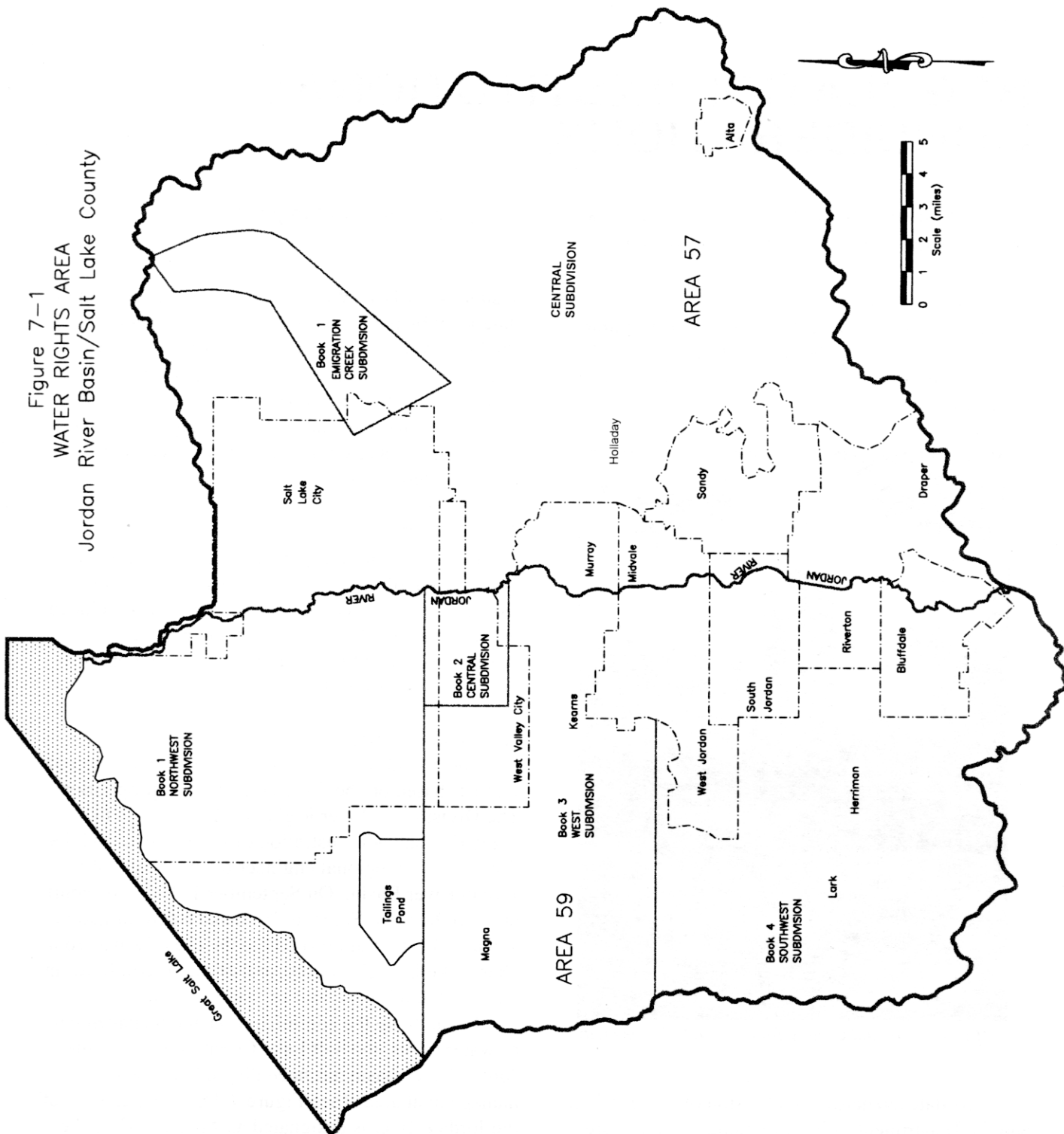
Water regulation is generally carried out under the direction of these state agencies, although some federal agencies become involved when it is included in their mandates. Local, public and private institutions and entities usually manage and operate the water systems at the basin level.

### 7.2.1 Current Regulations

Under Utah water law, the distribution and use of water is based on the doctrine of prior appropriation. The Division of Water Rights is charged with the regulation and administration of water rights, and the division has a regional engineer for the Utah Lake-Jordan River Basin. On September 1, 1944, the court ordered the State Engineer "to make a determination and adjudication of all rights to the use of water from Utah Lake in Utah County, and of the Jordan River in Utah and Salt Lake counties, and its tributaries."

To facilitate the administration and management of water rights, the Salt Lake County portion of the Jordan River Basin has been divided into two management areas (See Figure 7-1). The area west of the Jordan River is designated as Area 59, while the area east of the Jordan River is designated as Area 57. To date the only portion of Area 57 which has been adjudicated is Emigration Canyon. The Proposed

Figure 7-1  
WATER RIGHTS AREA  
Jordan River Basin/Salt Lake County



Determination of Water Rights for Emigration Canyon, Area 57, Book No.1, was distributed in November 1983. Area 59 has been adjudicated and the Proposed Determination Books have been completed. The four Proposed Determination Books for Area 59 are; Northwest Subdivision (Book 1) published in June 1975, Central Subdivision (Book 2) published in April 1977, West Subdivision (Book 3) published in September 1977; and the Southwest Subdivision (Book 4) published in January 1979. A supplement (Book 5) of indexes, disallowed claims and pending claims was also published in November 1979.

At the present time, the State Engineer has determined the surface water flows in the Jordan River Basin are fully appropriated. This means that the Division of Water Rights will not approve new applications to appropriate surface water in either Area 57 or 59. Groundwater is also considered fully appropriated. However, the Division of Water Rights will accept applications to appropriate up to one acre-foot per year of groundwater for domestic purposes where no adequate public water supply is available. These appropriations are temporary (limited to 10 years) and subject to cancellation if an adequate public water supply becomes available. The subject of groundwater is covered in more detail in Section 19. The general status of water right applications within Salt Lake County is summarized in Table 7-1.

### 7.2.2 Existing Local Institutions and Organizations

Local organizations generally carry out the distribution of water under water rights and rules and regulations administered by the State Engineer. These local institutions, entities and organizations have also completed most of the water development. Distribution systems along with local entities formed under specific enabling legislation are described below.

**Water Conservancy Districts** - These are created under Title 17A-2-1401 of the *Utah Code Annotated*. They are established by the district court in response to a formal petition and are governed by a board of directors appointed by the county commission when the district consists of a single county and by the governor when two or more counties are involved. Water conservancy districts have very broad powers. They include constructing and operating water systems, levying taxes and contracting with government entities. These districts

include incorporated and unincorporated areas. The two districts in the basin are the Salt Lake County Water Conservancy District and the Central Utah Water Conservancy District.

**Mutual Irrigation Companies** - These are the most common water development and management entities in the basin. They may be either profit or non-profit. They are formed under the corporation code. In general, stockholders are granted the right to a quantity of water proportional to the number of shares they hold and assessments are levied similarly. Over 100 mutual irrigation companies are in the Salt Lake Valley.

**Water Companies** - These are entities, such as special service districts, formed to provide water to subscribers. Private water companies operated for profit are regulated by the Division of Public Utilities.

**City Water Utilities** - These are utilities operated by incorporated cities and towns to provide water to residents and subscribers. Municipalities can form corporations to deliver water inside all or any part of a city boundary. Counties have the same authority in unincorporated areas. The *Utah Code Annotated* and local ordinances provide the legal framework for water operation. Local entities may pass ordinances regulating water use.

**Water User Associations** - These organizations are formed to deliver water for various purposes. They are often informal groups, but they can also be incorporated under Utah law.

**Other** - The Metropolitan Water District of Salt Lake City was formed in 1935 by the Utah State Legislature as a "separate and independent" citizen-administered public agency which is concerned primarily with water planning for the city of Salt Lake. In addition to providing water and water resources planning for Salt Lake City, the district is also a wholesale provider of water for the Salt Lake County Water Conservancy District, various water companies and other city water utilities.

## 7.3 Water Rights and Regulations

The State Engineer is responsible for determining whether there is unappropriated water and if additional applications will be granted. This is accomplished through data analysis and consideration of public input.

Before approving an application to appropriate water, the State Engineer must find: (1) There is unappropriated water in the proposed source, (2) the

Table 7-1  
**GENERAL STATUS OF WATER RIGHTS**  
Jordan River Basin

County	Area	Subarea	General Policy
Salt Lake	57 East Salt Lake Valley	General	<ul style="list-style-type: none"> <li>● Surface water appropriations are closed</li> <li>● Groundwater appropriations are generally closed valley-wide except for domestic wells limited to one acre-foot per year.</li> </ul>
		Mountain and canyon areas	<ul style="list-style-type: none"> <li>● Closed</li> </ul>
		Jordan Narrows	<ul style="list-style-type: none"> <li>● Some additional limitations may be applied to hot and cold water sources depending upon the intended use of the water</li> </ul>
	59 West Salt Lake Valley	General	<ul style="list-style-type: none"> <li>● Surface water appropriations are closed</li> <li>● Ground water appropriations are generally closed valley-wide except for domestic wells limited to one acre-foot per year</li> </ul>
		Mountain and canyon areas	<ul style="list-style-type: none"> <li>● Closed</li> </ul>
		Rose Canyon	<ul style="list-style-type: none"> <li>● The area is closed above Rose Canyon Irrigation Company diversion</li> </ul>

proposed use will not impair existing rights, (3) the proposed plan is physically and economically feasible, (4) the applicant has the financial ability to complete the proposed works, and (5) the applicant has filed in good faith and not for the purpose of speculation or monopoly. The State Engineer shall withhold action on or reject an application if it is determined it will interfere with a more beneficial use of water or prove detrimental to the public welfare or the natural resources environment.

Utah water law allows changes in the point of diversion, place of use, and/or nature of use of an existing right. To accomplish such a change, the water user must file a change application with the Division of Water Rights. The approval or rejection of a change application depends largely on whether or not the proposed change will impair other vested rights; however, compensation can be made, or conflicting rights may be acquired. Pending applications and stock in mutual water companies are considered personal property. As such they can be bought and sold in the open market.

In the appropriation process, the State Engineer analyzes the available data and, in most cases, conducts a public meeting to present findings and receive input before adopting a final policy regarding

future appropriation and administration of water within an area. Through regulatory authority, the State Engineer influences water management by establishing diversion limitations or duty of water (5.0 acre-feet per acre of irrigation in Salt Lake County) for various uses and by setting policies on water administration for surface water and groundwater supplies. The duty of water includes an allowance for reasonable distribution system and irrigation system inefficiencies.

The Division of Water Rights is responsible for a number of functions which include: (1) Distribution of water in accordance with established water rights, (2) adjudication of water rights under an order of a state district court, (3) approval of plans and specifications for the construction of dams and inspection of existing structures for safety, (4) licensing and regulating the activities of water well drillers, (5) regulation of geothermal development, (6) authority to control streamflow and reservoir storage or releases during a flooding emergency, and (7) regulation of stream channel alterations activities.

### 7.3.1 Utah Lake

Although Utah Lake is not located in Jordan River Basin, any discussion of management of the

Jordan River would be incomplete without a discussion of the lake and its role in regulating the river. Utah Lake, a natural occurring lake, currently operates as a regulating reservoir for the Jordan River and all releases to downstream canals. In November 1992, the Division of Water Rights published the *Interim Water Distribution Plan For the Utah Lake Drainage Basin* to clarify the relationship between storage rights in Utah Lake and storage rights on the upstream tributaries. In that document, the division identified a need to manage the water rights on the Provo River, Spanish Fork River, Utah Lake, Jordan River and other sources in the basin as one system. The discussion here of the *Interim Water Distribution Plan For the Utah Lake Drainage Basin* is limited to how the plan regulates the releases of water from Utah Lake to the Jordan River and related canals.

The interim plan identifies the water rights defined by the Morse decree (1901) as primary storage rights, and all subsequent rights established under applications to appropriate as secondary rights. The estimated average annual inflow to Utah Lake from surface and groundwater (for the 50-year period of 1941-1990) less agricultural and industrial uses is about 538,000 acre-feet. Of this, 308,000 acre-feet is discharged to the Jordan River and about 230,000 acre-feet is lost to net evaporation. The maximum legal storage elevation of the lake, called the Compromise Elevation, is 4,489.045. At this elevation, the lake's total storage capacity is approximately 870,000 acre-feet, of which 710,000 acre-feet is active storage and 160,000 acre-feet is inactive storage. Elevation 4480.345 is the point of demarcation between active and inactive storage. Water below that elevation cannot be taken from the lake. The first 125,000 acre-feet of active storage is referred to as primary storage. The balance of water stored in Utah Lake is called system storage. System storage water is used for primary and secondary water rights. Primary storage water is essentially held in reserve and dedicated solely for the use of the primary rights when all other active storage has been used.

### **7.3.2 New Water Rights Appropriations**

Because all surface and groundwater in the Jordan River Basin are considered to be fully appropriated, the potential for new water rights appropriations is extremely limited. Applications which have been previously approved may be developed and perfected in the future. There may

even be limitations imposed upon these claims such as the *Interim Groundwater Management Plan* recently developed by the Division of Water Rights.

There is concern the groundwater basin has already been over-appropriated. If on-going studies confirm this, the division will undoubtedly set into effect policies and procedures designed to bring the groundwater rights into balance with the safe groundwater yield.

Water rights can be sold or purchased much like any other property right. The dollar value or worth of individual water rights varies greatly for the following reasons: 1) Reliability of the water source, 2) priority of the water right, 3) water quality; 4) availability of other water sources, and 5) the existing demand. Although it is true that water rights have significant value, they may be lost if left unused for a sufficiently long period of time. Any water right can be lost by five consecutive years of non-use.

## **7.4 Water Quality Control**

The quality of surface water is determined under standards for allowable contaminant levels according to the use designations. The use designations and the standards are published by the Utah Department of Environmental Quality in the *Standards of Quality for Waters of the State*. The Water Quality Board implements the regulations, policies and activities necessary to control water quality. This is carried out through the Division of Water Quality.

## **7.5 Drinking Water Regulations**

The Drinking Water Board is responsible for assuring a safe water supply for domestic culinary uses. It regulates any system defined as a public water supply. This may be publicly or privately owned. The Drinking Water Board has adopted State of Utah Public Drinking Water Regulations to help assure pure drinking water. The Drinking Water Board is empowered to adopt and enforce rules establishing standards prescribing maximum contaminant levels in public water systems. This authority is given by Title 26, Chapter 12, Section 5 of the *Utah Code Annotated, 1953*. The rules and regulations setting drinking water standards were adopted after public hearings. These standards govern bacteriologic quality, inorganic chemical quality, radiologic quality, organic quality and turbidity. Standards are also set for monitoring frequency and procedures.

The Drinking Water Board, through the Division of Drinking Water, also operates under the federal Safe Drinking Water Act. This act sets federal drinking water standards and regulations. The recently amended bill now includes a revolving loan program to provide money to states to construct drinking water treatment plants. It also relaxes some Environmental Protection Agency requirements for setting standards for drinking water and provides more flexibility for small and rural systems.

The Division of Drinking Water serves as staff for the Drinking Water Board to assure compliance with the standards. At the local level, considerable reliance is placed on public water supply operators. Those operating systems serving over 800 people are currently required to have state certification. Water systems serving fewer than 800 people will only need to have a certified operator if the water system has some sort of treatment facility in place. The water systems are listed in Table 11-1.

The Division of Drinking Water also administers the Drinking Water Source Protection Program. This program is designed to protect groundwater quality. Owners of wells and springs are required to develop protection programs based on the areas of influence around the source. The outcome of the program is to develop controls for potential sources of pollution to the groundwater. The Drinking Water Source Protection Program includes monitoring delivered drinking water quality as well as water source protection.

## 7.6 Environmental Considerations

Although county and city planning documents have identified a need to establish minimum stream-flow requirements for the Wasatch Mountain streams, none have been any established. Some canyon streams on the east bench fall within the limits of federally declared wilderness areas. Consequently, the streams within wilderness areas will have federally imposed restrictions barring development, stream alterations and withdrawals. Also, the Corps of Engineers (COE) has a federally mandated responsibility to review and approve or disapprove any stream channel alterations or modification. This includes wetlands as well as stream systems. The COE is assisted in this review process by the Division of Water Rights, the Division of Water Quality, the Division of Wildlife Resources, and the Division of Forestry, Fire and State Lands.

## 7.7 Dam Safety

All dams in Utah which store in excess of 20 acre-feet of water or whose failure could cause loss of life or property damage are assigned a hazard rating. The hazard rating does not reflect the condition or reliability of the dam, but rather the potential for loss of life in the event of a dam failure. Hazard ratings are either high, moderate or low. The hazard rating is used to determine the frequency of inspections. High-hazard dams are inspected yearly; moderate hazard, every other year; and low hazard, every fifth year. Following the inspection, a letter from the State Engineer suggests maintenance needs and requests specific repairs. The State Engineer is empowered to declare a dam unsafe and order it breached or drained. But every effort is made to work with dam owners to schedule necessary actions.

The Division of Water Rights has design standards which are outlined in a publication entitled, *Rules and Regulations Governing Dam Safety in Utah*. Plans and specifications must be consistent with these standards. Dam safety personnel monitor construction to insure compliance with plans, specifications and design reports. Any problems are resolved before final approval is given.

Table 7-2 gives the hazard rating for each reservoir in the Jordan River Basin. See Table 6-1 for information on dam owners and stream locations. ■

Table 7-2 HAZARD RATING OF JORDAN RIVER BASIN RESERVOIRS			
Name	Built	Total Storage (acre-feet)	Hazard Rating
Little Dell	1993	20,500	High
Mountain Dell	1925	3,514	High
Lake Mary-Phoebe	1915	85	High
Jordan Valley Water Treatment			
Upper Pond	1981	550	Moderate
Lower Pond	1982	46	Moderate
Twin Lakes	1914	486	High
Red Butte <sup>a</sup>	1930	385	High
White Pine Lake	1933	315	High
Bell Canyon (Lower) <sup>b</sup>	1907	25	High
Red Pine Lake	1929	202	High
Secret Lake	1926	60	Moderate
a) Red Butte is currently inactive with stream flows passing directly through the outlet works. b) Lower Bell Canyon Dam has been breached, by order of the State Engineer.			